

XVII.—Notes on the Braconidæ in the British Museum.—
IV. On new Helconinæ, mostly Australian. By ROWLAND
E. TURNER, F.Z.S., F.E.S.

Key to the Australian Genera of Helconinæ.

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|---|--------------------------------|
| 1. Recurrent nervure received by second cubital cell | <i>Megalohelcon</i> , gen. n. |
| Recurrent nervure received by first cubital cell | 2. |
| 2. Median lobe of mesonotum depressed below the lateral lobes | <i>Parahelcon</i> , Kokuji. |
| Median lobe of mesonotum not depressed .. | 3. |
| 3. Anal cell of fore wing with two fully developed transverse nervures; first tergite large, constricted at one-third from the base, the basal portion bilobed and massively subtuberculate on each side of the anterior margin | <i>Culohelcon</i> , gen. n. |
| Anal cell of fore wing with one transverse nervure, rarely with indications of the second; first tergite not abnormal | 4. |
| 4. Frontal excavation present | 5. |
| Frontal excavation absent | <i>Aspidocolpus</i> , Wesm. |
| 5. Anal cell of fore wing with indications of a second transverse nervure | <i>Gymnoscelus</i> , Först. |
| Anal cell of fore wing without any indication of a second transverse nervure | 6. |
| 6. Median segment and two basal tergites clothed with dense grey pubescence; second tergite with a median longitudinal carina .. | <i>Trichiohelcon</i> , gen. n. |
| Median segment and abdomen without dense pubescence; second tergite without a carina | <i>Austrohelcon</i> , gen. n. |

Typical *Gymnoscelus* has the second transverse vein of the anal cell fully developed.

MEGALOHELCON, gen. nov.

Mandibles bidentate at the apex, the inner tooth much longer than the outer; anterior margin of the clypeus straight. Face produced into a spine above the base of the clypeus, with a curved carina on each side near the inner margin of the eyes; cheeks as long as the third joint of the flagellum. Head large, transverse, as broad as the thorax; eyes broadly oval, ocelli very large; frontal depression not well defined. Antennæ about 77-jointed. Median lobe of the mesonotum

broad, slightly depressed in the middle, the parapsidal furrows very broad and deep. Median segment areolated. Abdomen elongate-fusiform, slender at the base; the apical dorsal segment narrow, with short cerci, terebra very short. Radial cell not quite extending to the apex of the fore wing; first cubital cell only divided from the discoidal on the apical half, the cubital nervure obsolete on the basal half of the cell; second cubital cell long and narrow, about half as long again on the cubitus as on the radius; second transverse cubital nervure oblique, sloping outwards from the cubitus to the radius, less than half as long as the second abscissa of the radius; recurrent nervure received near the base of the second cubital cell; anal cell with only one transverse nervure, nervulus slightly postfurcal.

Megalohelcon torresensis, sp. n.

♀. Testacea; mandibulis apice nigris; alis hyalinis, venis fuscis; cellula radiali margine costali anguste infuscata.
Long. 22 mm.

♀. Antennæ as long as the thorax and abdomen combined, second joint of the flagellum a little longer than the third, twice as long as the first. Face rugulose, mesonotum finely and closely punctured; pleuræ almost smooth, the grooves very coarsely crenulated. Dorsal surface of the median segment about equal to the scutellum in length; with a median carina and a slightly oblique lateral carina on each side, all meeting the strong apical transverse carina; on each side of the segment is a strong carina reaching from the base to the very large elongate spiracle; the apical slope of the segment has a small oval area at the base, with a median longitudinal carina beyond it; near the lateral margins are two longitudinal carinæ on each side. First tergite more than three times as long as its apical breadth, the spiracles just beyond one-third from the base, subtuberculate. Apical ventral segment strongly compressed laterally, the terebra very short, only slightly exerted, probably usually withdrawn.

Hab. Islands in Torres Straits.

In the position of the recurrent nervure this resembles the genus *Brulleia*, Szépl., but is very distinct otherwise. Doubtless the large ocelli, the long antennæ, and the pale colouring indicate nocturnal habits. All other *Helconinæ* recorded from Australia are from S.E. Australia and Tasmania, and I never saw any species of the group during my long residence in North Queensland.

Genus PARAHIELCON, Kokuĵ.

Parahelcon, Kokuĵ. Revue Russe Ent. i. p. 14 (1901).*Parahelcon konowi*, Kokuĵ.*Parahelcon konowi*, Kokuĵ. Revue Russe Ent. i. p. 15 (1901). ♀.*Opius euthyrrhini*, Cum. Proc. Linn. Soc. N.S.W. xxxvii. p. 19 (1912). ♀.*Hab.* Gosford, N.S.W.

This genus is easily distinguished by the strongly depressed median lobe of the mesonotum. The neuration is as in *Gymnoscelus*; the anal cell has two cross-nervures, but the second is incomplete. The second transverse cubital nervure meets the cubitus at right angles, not oblique as in typical *Gymnoscelus*.

CALOHELCON, gen. nov.

Anal cell of fore wing with two transverse nervures; nervulus interstitial or very slightly postfurcal; second transverse cubital nervure slightly oblique, not quite at right angles to the cubitus; first discoidal cell with a very short petiole, almost sessile. Frontal excavation fairly deep; median lobe of the mesonotum normal; parapsidal furrows not very deep, not crenulated. Median segment smooth, not areolated. First tergite as broad at the apex as the second, narrowed at about one-third from the base, the basal portion bilobed on the anterior margin and swollen on each side, at least as long as the apical breadth, twice as broad at the apex as at the base. Terebra at least as long as the whole insect.

Type of the genus, *C. obscuripennis*, Turn.

Calohelcon obscuripennis, sp. n.

♀. Nigra; capite rufo, antennis nigris; segmento mediano dimidio apicali, segmentoque abdominali primo, macula mediana dorsali subapicali nigra, albidulis; alis fusco-hyalinis.

♂. Feminæ similis.

Long., ♀, 15 mm., terebræ long. 17 mm.; ♂, 14 mm.

♀. Clypeus narrowly depressed at the apex, the apical margin straight, not reaching the mandibles in the middle. Head massive, broader than the thorax, vertex and front smooth and shining, a short longitudinal carina between the antennæ; face finely punctured, with an impressed longitudinal line on each side from the base of the antennæ to the

clypeus; posterior ocelli twice as far from the eyes as from each other. Antennæ about 50-jointed, second joint of the flagellum fully three times as long as the first. A large curved depression, longitudinally striated, at the base of the scutellum. Thorax and median segment smooth and shining. Abdomen smooth and shining, the valvulæ clothed with short hairs. Spiracle of the median segment small and round.

Hab. Victoria (*French*), ex coll. Turner.

A variety in the British Museum collection without data has the prothorax and mesonotum red and measures 18 mm. in length. This may prove to be distinct or a local race. The length of the second abscissa of the radius seems to be variable in this species.

AUSTROHELCON, gen. nov.

Very near the genus *Gymnoscelus*, Först., differing in having only one transverse nervure in the anal cell of the fore wing instead of two, and the second transverse cubital nervure straight, forming a right angle with the cubitus, not oblique. The genus *Edyia*, Cam., from Borneo, is somewhat intermediate between the two genera, having the second cubital cell as in *Gymnoscelus*, but the second transverse vein of the anal cell almost obsolete. The frontal excavation is shallower and less sharply defined than in *Gymnoscelus* and *Edyia*. The nervulus in *Edyia* and *Austrohelcon* is distinctly postfurcal, not interstitial as in *Gymnoscelus*.

Type of genus, *A. meridionalis*, Turn.

Key to the Species of *Austrohelcon*.

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| 1. Head black; thorax almost entirely rufo-testaceous. | 2. | |
| Thorax almost entirely black | 4. | |
| 2. Joints 2-4 of the hind tarsi yellowish white | 3. | |
| Third and fourth joints of the hind tarsi only whitish | | <i>A. australianus</i> , Kokuji. |
| 3. Pronotum, base of scutellum, and the middle of the mesosternum black. | | <i>A. indultor</i> , Erichs. |
| Thorax entirely rufo-testaceous | | <i>A. inornatus</i> , Kokuji. |
| 4. Head, except the ocellar region, red | | <i>A. erythrocephalus</i> , Turn. |
| Head black. | | <i>A. meridionalis</i> , Turn. |

Austrohelcon meridionalis, sp. n.

♀. Nigra; clypeo apice mandibulisque basi fusco-ferrugineis; abdomine rufo-ferrugineo, valvulis terebræ nigris; antennis 43-articulatis, articulis 14-22 albido-flavis; pedibus rufo-testaceis, tibiis posticis tertio apicali, tarsis posticis articulo apicali, unguiculisque nigris; alis hyalinis, venis fuscis; tegulis testaceis. Long. 9-11 mm.; terebræ long. 13-14 mm.

♀. Clypeus short, the apical margin deflexed and straight, not reaching to the mandibles, leaving a space in which the ciliated labrum is exposed. Face closely punctured, with more or less developed striæ, and a low but distinct longitudinal carina. Front and vertex smooth and shining, the frontal depression large but not very deep, the lower portion distinctly margined laterally. Pronotum rugose; the median lobe of the mesonotum rather prominent, shining in front, coarsely and irregularly reticulate posteriorly, the parapsidal furrows very coarsely crenulated; lateral lobes of the mesonotum smooth and shining; pleuræ rugulose, the mesopleuræ smooth and shining in the middle; scutellum finely punctured, with a longitudinally striated depression at the base. Median segment coarsely and irregularly rugose reticulate. Abdomen smooth and shining; the first tergite with two longitudinal carinæ from the base to beyond the middle, the basal half finely punctured, about three times as long as its apical breadth. Hind metatarsus not quite as long as the three following joints combined. Radius not quite reaching the apex of the fore wing; second abscissa of the radius distinctly longer than the first, about equal to the second transverse cubital nervure; first discoidal cell distinctly petiolate.

Hab. Victoria (*French*).

The colour varies considerably, some specimens having the hind tarsi whitish yellow except at the extreme apex and some having the upper portion of the propleuræ fusco-ferruginous. A specimen from Hobart differs in having the hind metatarsus black and the second abscissa of the radius nearly half as long again as the second transverse cubital nervure.

Austrohelcon erythrocephalus, sp. n.

♀. Rufo-testacea; thorace nigro, propleuris supra ferrugineis; segmento mediano nigro-suffuso; tibiis posticis tertio apicali, metatarso postico dimidio basali, unguiculisque nigris; antennis

43-articulatis, articulis 15-25 albido-flavis; terebræ valvulis nigris; alis hyalinis, venis fuscis, tegulis testaceis. Long. 9 mm.; terebræ long. 10 mm.

♀. Differs from *A. meridionalis* in having the face very finely punctured, without a carina; the median lobe of the mesonotum finely punctured, not reticulate posteriorly; the first tergite transversely rugulose, the two longitudinal carinæ stronger than in *meridionalis* and reaching almost to the apex, and the second cubital cell longer, somewhat narrowed to the apex, the second abscissa of the radius nearly twice as long as the second transverse cubital nervure, and about two-thirds of the length of the cubital margin of the cell.

Hab. Victoria (*C. French*).

A specimen from Franklin, Tasmania, has the hind tarsi whitish yellow except at the base and apex, but in the type also they are much paler than the other tarsi, and would probably be whitish yellow in life.

I have not seen either *A. indultor*, Erichs., or *A. australianus*, Kokuj. A specimen of *A. inornatus*, Kokuj., differs from the type in having joints 15-21 of the antennæ whitish instead of 15-24 as in the type, and the antennæ only 39-jointed instead of 45; but another specimen has 41 joints with joints 15-22 whitish. The female of *inornatus* has the terebra equal in length to the whole insect. Probably, as Kokouyew suggests, *inornatus* will prove to be a variety of *indultor*. The three species of *Austrohelcon* known to me all have the clypeus short and the labrum exposed.

TRICHIOHELCON, gen. nov.

♀. Closely allied to *Austrohelcon*, differing in the deeper frontal excavation, in the strong longitudinal median carina of the second tergite, and in the dense hairy covering of the median segment and of the first and second tergites.

Type of the genus, *Iphiaulax phoracanthæ*, Frogg.

Trichiohelcon phoracanthæ, Frogg.

Iphiaulax phoracanthæ, Frogg. *Agricult. Gazette of New South Wales*, xxvii. p. 565 (1916). ♀.

♀. Nigra; capite rufis; segmento mediano, tergitisque primo secundoque albo-cinereo-hirsutis; alis fusco-hyalinis, venis nigris. Long. 11 mm.; terebræ long. 11 mm.

♀. Antennæ 48-jointed; head shining, the face finely

punctured; clypeus short, the anterior margin straight, not reaching the mandibles, labrum exposed. Mesonotum and pleuræ shining, smooth, the median lobe of the mesonotum prominent, parapsidal furrows deep. First tergite less than twice as long as its apical breadth.

Hab. S.E. Australia and Tasmania.

A parasite on *Phoracantha* larvæ. Placed in *Iphiaulax* by Froggatt on the determination of C. Morley.

Genus GYMNOSCELUS, Först.

Gymnoscelus rufoniger, sp. n.

♀. Nigra, capite thoraceque rufis; antennis, postscutelloque nigris; segmento mediano nigro, dense albido-piloso; coxis anticis rufis; alis fusco-hyalinis, venis fuseis; antennis 45-articulatis.
Long. 10 mm.; terebræ long. 8 mm.

♀. Head broader than the thorax, smooth and shining, the face very minutely punctured. Clypeus truncate at the apex, the labrum slightly exposed; cheeks long, only a little shorter than the eyes; frontal excavation deep. Thorax smooth and shining, the median lobe of the mesonotum rather prominent; parapsidal furrows well marked, very finely crenulated in the middle, the extremities smooth; a curved and strongly longitudinally striated depression at the base of the scutellum. Median segment densely covered with whitish hairs, not areolate. Abdomen smooth and shining, not quite as long as the head, thorax, and median segment combined, fusiform; the first tergite about half as long again as its apical breadth, covered with close-lying white hairs, not carinated. Hind coxæ subopaque, closely and minutely punctured, sparsely covered with white hairs. First discoidal cell sessile, nervulus slightly postfurcal, anal cell of fore wing with two transverse nervures, the second partly obsolete. First abscissa of the radius very short, second half as long again as the second transverse cubital nervure, the latter straight, forming a right angle with the cubitus.

Hab. Hobart, Tasmania (*J. J. Walker*); Victoria (*French*).

In the Victorian specimen the white hairs spread on to the sides of the second tergite. The species is not a typical *Gymnoscelus*, differing in the shape of the second cubital cell and in the partial effacement of the second transverse vein of the anal cell. It forms a link between *Gymnoscelus* and *Trichiohelcon*, differing from the latter in the absence of a

carina on the second tergite and the partial development of the second transverse vein of the anal cell.

Gymnoscelus rufithorax, sp. n.

♂. Gracilis, niger; thorace rufo; segmento mediano nigro, rugoso; alis hyalinis, venis fuscis; antennis 32-articulatis; tarsis intermedii articulis tertio quartoque pallide brunneis.

Long. 6 mm.

♂. Head broader than the thorax, finely and closely punctured, the face more closely punctured than the vertex and clothed with short white pubescence; clypens truncate at the apex; cheeks about half as long as the eyes; frontal excavation very shallow and ill-defined, a low carina from between the antennæ to the anterior ocellus. Thorax finely and closely punctured; the median lobe of the mesonotum not prominent; parapsidal furrows clearly defined, finely crenulated. Basal half of the scutellum depressed and strongly longitudinally striated; median segment very coarsely rugose, not areolate. Abdomen very slender, as long as the head, thorax, and median segment combined; the first tergite nearly as long as the remainder of the abdomen, gradually broadened from the base, three times as long as its apical breadth, transversely rugulose, with two longitudinal carinæ from the base extending for fully three-quarters of the length of the tergite, the extreme apex smooth and shining. Hind coxæ closely and finely punctured and sparsely clothed with white hairs, hind calcaria very short. First discoidal cell sessile, anal cell with two transverse nervures; second abscissa of the radius nearly twice as long as the first, equal in length to the second transverse cubital nervure, only half as long as the cubital margin of the cell; second transverse cubital nervure straight, forming a right angle with the cubitus.

Hab. Melbourne, Victoria (*French*).

This differs from typical *Gymnoscelus* in the very shallow and almost obsolete frontal excavation, in which point it approaches *Aspidocolpus*. But the second transverse vein in the anal cell is present as in *Gymnoscelus*.

Genus ASPIDOCOLPUS, Wesm.

Aspidocolpus penetrator, Sm.

Rhogas penetrator, Sm. Trans. Ent. Soc. London, p. 5 (1878). ♀.

This was erroneously placed in *Rhogas* by Smith. The

head is smaller and more transverse than is usual in the Helconinæ, and the abdomen is placed lower on the median segment, almost as low as in the Diospilinæ, to which subfamily the species shows some approach; but the abdomen is long and slender, and I think it is best placed here.

Hab. New Zealand.

GENUS BRULLEIA, Szépl.

Brulleia chinensis, sp. n.

♂. Rufo-ochraceus; flagello, articulo basali excepto, mandibulis apice, abdomine segmentis tertio, basi excepto, sequentibusque, tibiis posticis dimidio apicali, tarsisque posticis, articulo apicali excepto, nigris; alis flavo-hyalinis, venis ferruginæis, stigmatibus costaque nigris.

Long. 20 mm.

♂. Mandibles bidentate at the apex, the upper tooth distinctly longer than the lower; clypeus short, truncate at the apex, the labrum exposed. Head transverse, broader than the thorax, the whole, including the labrum, very finely and closely punctured; frontal excavation not very deep, but well defined; eyes about three times as long as the cheeks. Antennæ long, broken at the apex beyond the thirty-sixth joint. Thorax finely and closely punctured; middle lobe of the mesonotum not prominent; parapsidal furrows deep, crenulated; postscutellum distantly longitudinally striated. Median segment rugose, with an indistinct semicircular basal area and two indistinct longitudinal carinæ very close together near the middle; these carinæ diverge on the apical slope, enclosing a small semicircular area; the lateral margins of the segment with strong carinæ, the spiracles large and oval; a longitudinal striated groove below the spiracles. First tergite rugose, broadened from the base, three times as long as its apical breadth, with a longitudinal carina running from each of the basal angles nearly to the middle; second tergite finely punctured-rugulose in the middle, the remainder of the abdomen very finely and closely punctured. Hind metatarsus as long as the four apical tarsal joints combined. Anal cell with two transverse nervures. First discoidal cell sessile; recurrent nervure received by the second cubital cell near the base; second abscissa of the radius nearly twice as long as the first, fully as long as the second transverse cubital nervure, which is oblique, but not bent; nervulus interstitial.

Hab. North China.

The type of the genus is from New Guinea, but this appears to be congeneric.

Genus HELCON, Nees.

Helcon unicornis, sp. n.

♀. Nigra; mandibulis basi, coxis trochanteribusque posticis, femoribusque posticis, apice nigro excepto, ferrugineis; tegulis, palpis, segmento abdominali primo, pedibusque anticis intermedisque testacco-ferrugineis; tarsis posticis, articulo apicali excepto, albidis; antennis 37-articulatis, articulis 10 basalibus fusco-brunneis, 11-18 albis, apicalibus nigris; alis hyalinis, venis fuscis.

Long. 9 mm.; terebræ long. 6 mm.

♀. Face rugose, with a few oblique striæ on each side; vertex and front smooth and shining; the frontal depression not very deep, but strongly margined laterally, from the anterior portion of the depression rises a strong blunt horn, which rises higher than the raised lateral margins of the depression. Cheeks more than half as long as the eyes. Thorax closely and rather finely punctured; median lobe of the mesonotum not prominent; parapsidal furrows crenulated; mesopleuræ smooth and shining; the mesonotum behind with distinct transverse striæ in the middle; basal half of the scutellum occupied by a deep longitudinally striated depression. Median segment transversely rugulose, with four strong longitudinal carinæ on the dorsal surface, the sides of the segment rugose-reticulate. First tergite rather coarsely punctured-rugulose, a little more than twice as long as its apical breadth; second tergite indistinctly punctured-rugulose at the base, shining at the apex; the apical tergites smooth and shining. Hind femora very finely serrate in the middle beneath, with a stout spine beneath before the apex. The second transverse nervure in the anal cell of the fore wing is only faintly indicated. First discoidal cell distinctly petiolate; second abscissa of the radius less than twice as long as the first, as long as the second transverse cubital nervure, less than half as long as the cubital margin of the cell; second transverse cubital nervure oblique; nervulus slightly postfural.

Hab. French Indo-China (received from *A. Vuillet*).

The frontal excavation is smaller than is usual in the genus, and does not extend as high as the anterior ocellus, differing in this respect from the Japanese *H. cornutus*, Cam., in which the excavation is very large and deep.

Genus CÆLOSTEPHANUS, Kieff.

Cælostephanus, Kieff. Ann. Soc. Entom. France, p. 232 (1911).

This genus, created by Kieffer for the Mexican *C. rufus*, Kieff., must sink as a synonym of *Gymnoscelus*. The hind femora are missing in the type. The first tergite is smooth, and the second transverse cubital nervure is not oblique; otherwise it does not differ appreciably from *Gymnoscelus*. Kieffer placed his genus in the Stephanidæ, quite erroneously.

XVIII.—*Contributions to a further Knowledge of the Rhynchotal Family Lygæidæ.* By W. L. DISTANT.

[Continued from vol. i. (ser. 9) p. 424.]

Æthalotus apicimaculatus, sp. n.

Head, pronotum, scutellum, and corium black, finely, more palely pilose; bases of the pedunculated eyes and narrow base of head, an obscure narrow central line to pronotum, an apical spot to scutellum, connexivum, lateral areas of head beneath, broad lateral margins to sternum, and body beneath more or less dark ochraceous; legs, rostrum, and antennæ black; antennæ with the second joint longer than the third, which is almost subequal in length to fourth joint; eyes strongly pedunculate; the pale apex to the scutellum somewhat globose; pronotum finely, obscurely punctate; membrane slaty grey, the veins black, not reaching abdominal apex.

Long. 5 mm.

Hab. East Africa [German]; Lulanguru (*G. O. II. Carpenter*).

Lygæus montislunæ.

Spilostethus montislunæ, Bergr. Rev. Zool. Afric. iii. p. 456 (1914).

This species originally described from Uganda has also been received by the British Museum from Abyssinia; Managasha (*P. C. Zaphiro*).

Lygæus fimbriatus.

Lygæus fimbriatus, Dall. List. Hem. ii. p. 546 (1852); Dist. Faun. Brit. Ind., Rhynch. ii. p. 7 (1904).

This species has now been received from Ceylon; Peradeniya.

Ann. & Mag. N. Hist. Ser. 9. Vol. ii.

13